

Colorado Department of Health

Review and Comment

Draft EMD OP GT.30  
In-situ Characterization of Radionuclides

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General Comments:

1) The Division notes that, within this operating procedure, there are no provisions for HPGe surveys within buildings or for HPGe surveys conducted within a laboratory setting on field samples. Both of these procedures have been proposed in RFI/RI Workplans, but the workplans delegated the responsibility for presenting the details of the procedures to this EMD OP. This material must appear in one place or the other. (The Division recommends, as we have in the past, that procedures applicable to more than one OU be included in the operating procedures and unique procedures to one OU be included in the Workplans.)

2) As there are limitations on HPGe applicability, operating procedures need to be developed for other types of radiation surveys that may be used on RFP. Specifically, the Division believes that an OP for FIDLER (and/or NaI) surveys should be developed.

3) Several RFI/RI Workplans have mentioned that vertical soil profiles will be sampled to assist calibration of the HPGe equipment. This calibration procedure is not included in the operating procedure.

4) One of the principle contaminants of concern for any radiation survey at RFP is plutonium. Since the HPGe equipment only measures gamma activity, concentrations of plutonium must be inferred from the concentration of gamma-emitting americium. There is no mention in this operating procedure of how this would be done.

5) This procedure only presents button-pushing of the equipment. Criteria for applicability and implementability need to be included.

6) This procedure is not written in a manner consistent with other operating procedures for RFP.

7) If standard sampling forms are envisioned for use in the field (completed for each sampling grid point and/or sampling event), examples of these forms need to be included in the operating procedure.

8) Equipment operating manuals also need to be included in the procedure unless they are too extensive.

Specific Comments:

1) In Section 4.0 of the procedure, no limitations or precautions are delineated. Please clarify spacing determination, colimeter use, count times, sensitivity, range, detector height, sweep, field of view, storage precautions, terrain criteria, weather criteria, etc., etc., etc., for the Division since we are obviously uninformed.

2) Section 6 contains no equipment list.

3) Instruction 6.1 states that location and sampling height will be determined by a supervisor. Hopefully, the location points of any survey grid and detector height have been predetermined in an approved workplan. If this is not the case, clarification of what is meant by "supervisor" would be very helpful.

4) Please provide details for Instruction 6.12. Information such as count time, instrument sensitivity, and adjustments that need to be made to the equipment would seem to be important here.

5) Regarding Instruction 6.13.11, QA/QC procedures need to be developed to handle recurring "unusual items." In addition, criteria on when HPGe gives way to alternate and better suited surveys should be developed.

6) Appendix 1 makes reference to "sampling strategies." To the extent practical, the common and repeatedly employed strategies should be made a part of this operating procedure.